



SPA FOR PRIVATE USE

OPERATING INSTRUCTIONS



RELEASE
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IMPORTANT

This instructions manual contains fundamental information on the safety measures to be adopted when installing and starting-up the spa. It is therefore essential that both the Fitter and the User read these instructions before assembly and start-up.

1. GENERAL DETAILS

This manual contains all the information needed to fully enjoy your SPA. Please read carefully all the instructions provided as well as the installation manual that you will find with this user manual.

If you have any question or doubt on the operation or maintenance of this product, please contact your local dealer. They are professional specialists and their knowledge will help you enjoy this product.

Keep this manual in a safe place as you will find it very useful.



IMPORTANT

The manufacturer reserves the right to modify part of the design or specifications without prior notice and without entering into any obligation.

This Spa has been designed and conceived for private use only: any public use shall annul its guarantee.

2. SAFETY REGULATIONS

2.1 GENERAL

- Avoid contact with electrical voltage
- Carefully follow current regulations regarding accident prevention.
- Any modification on the equipment requires prior authorisation from the manufacturer. Original spare parts and accessories authorised by the manufacturer guarantee greater safety. The manufacturer of the equipment is exempt from all liability for damages caused by using non-authorised spare parts or accessories.
- The user shall ensure that qualified adult professionals carry out both the assembly and maintenance works, who have previously carefully read the installation and service instructions.
- ATTENTION – Correct earthing connection is essential. The earth connection circuit of the building must be in perfect condition to guarantee the safety of the Spa user. If you have doubts on the matter, ensure the earth circuit is reviewed by qualified personnel. The manufacturer shall not be responsible for the damages caused by inadequate maintenance of the earth connection circuit.
- ATTENTION – It is essential that the owner of the Spa tests the differential switch at least once a month, to check its good working order
- The manufacturer shall not be responsible for the damages caused by the assembly of non-authorized accessories, nor for those caused by a improper handling by non-qualified personnel. Please contact your authorised dealer or technical assistance service if you have any doubts or need technical assistance.
- During operation, some parts of the equipment are at dangerous electrical voltage levels. Work on each element or equipment can only be performed once it has been disconnected from the mains and with the start-up devices disconnected.
- Safety in the operation of the machine can only be guaranteed if installation and service instructions are followed.
- The limits indicated on the electrical control panel cannot be exceeded under any circumstances.
- Contact the Technical Service of the manufacturer or your local dealer in the event of malfunction or a breakdown.
- In this respect, the current regulations in each country should be followed.
- There is a risk of flooding with this equipment and therefore, the Spa should be installed in an area prepared to collect or drain leaking water (either from below or overflowing water) as a result of using the Spa or from possible leakage in any of its circuits. (See the Guarantee).
- The installation of the Spa must at all times meet current regulations applicable in each country, particularly those referring to electrical safety.
- This unit must be installed in an appropriately prepared area with easy access to all the components of the Spa. The Guarantee does not cover any building work required to position or replace the product. (See the Guarantee).



IMPORTANT

The manufacturer shall not be held responsible for any damage as a result of incorrect positioning or misuse of the Spa.

2.2. WARNINGS ON MAINTENANCE WORK

- Before carrying out any electrical or mechanical maintenance work, make sure that the machine is disconnected from the mains, and that the start-up devices are blocked. Do not handle the equipment with wet feet.
- Take extreme precautions to stop children from entering the Spa unattended. To avoid accidents, ensure that children are supervised at all times. Never leave children alone in the Spa. Take care when entering and leaving the Spa to avoid slipping on wet surfaces.
- Do not allow anybody to play with sharp or metal objects inside the Spa, which could damage the acrylic surface.
- Do not allow any user to access the electrical parts of the Spa.
- Do not start-up the Spa unless it is full of water.
- Do not use electrical or electronical apparatus inside the Spa.
- Do not let animals in the Spa.
- Do not fill the Spa with other liquid other than fresh, duly treated water.
- Do not fill the Spa with hot water (maximum 35°C); let the water heat by itself, otherwise it could damage the temperature probes (see "Temperature Adjustment").
- Do not use the Spa immediately after intense physical exercise.
- Do not use the Spa if you are suffering from a contagious disease or 14 days after recovering from a contagious disease.
- In order to guarantee maximum safety when bathing all our Spas use pumps designed to suction water from anti-vortex, safety drain covers, located on the floor of the Spa. Take special care that these drain covers are not covered by any object or the users (pieces of clothing, hair, legs, etc.). For safety reasons, your head should always be outside the Spa in order to avoid drowning. Do not use the Spa if the drain covers are broken, damaged or unassembled, as apart from damaging the Spa, it could also lead to a risk of drowning
- The headrests of your Spa are made of synthetic foam, which can be damaged in high concentrations or bromine or chlorine, or low levels of pH. Make sure that when adding chemical products, the headrests are neither totally nor partially immersed in the water. If necessary, remove them until the chemical products have taken effect. Damages resulting from improper use shall not be considered under the guarantee of the product.

- The Spa includes a cover designed to protect the acrylic surface from sunrays when it is not being used. This cover will also help to keep the water warm and for sun protection that could damage the acrylic material of the Spa. The cover will require additional means of protection in the event of heavy rain or snow. The cover is not designed to bear heavy weights, not even children or animals. Also, water in bad condition could damage the cover. Therefore, keep the chemical levels in accordance with the instructions provided in this manual. Do not clean the cover with detergent or abrasive products as they will cause damage. Improper use of the cover is not included in the guarantee.



WARNING

The water should be disinfected thoroughly before using the Spa, especially if it has not been used for a certain period of time, whether or not it has been left with or without water inside. During periods of non-use, traces of stagnant water may remain, which may cause the growth of micro organisms potentially dangerous for health. Therefore, disinfect the Spa as indicated in this manual, ensuring that the pH and disinfectant parameters are suitable.



WARNING

**THE COMPENSATION TANKS OF PRIVATE OVERFLOW SPAS HAVE A LIMITED CAPACITY.
THEY CAN HOLD 280 LITRES OF WATER, EQUIVALENT TO 4 PARTIALLY SUBMERGED PEOPLE.
USERS SHOULD ENTER THE SPA ONE BY ONE AND SLOWLY TO ENABLE THE TANKS TO ABSORB THE DISPLACED WATER AND PREVENT WATER FROM FLOWING OUT OF THE SPA.**

2.3 AVOIDING RISKS OF HYPERTHERMIA

- Prolonged, direct contact with hot water could cause HYPERTHERMIA. This occurs when the internal body temperature reaches levels above the normal temperature of 36.5°C. It is advised not to bathe for longer than 15 minutes
- Symptoms of hyperthermia are a sudden drop in blood pressure resulting in a sensation of dizziness with the possibility of fainting.
- The Spa water should never be above 40°C.
- Water temperatures between 37°C and 40°C are only considered safe for adults without any health problems. Lower temperatures are recommended for the majority of people and children.



THE USE OF ALCOHOL, DRUGS OR MEDICINES COULD INCREASE THE RISK OF HYPERTHERMIA. IT IS NOT ADVISABLE FOR PREGNANT WOMEN, PATIENTS WITH HIGH BLOOD PRESSURE, A HEART CONDITION, DIABETES OR UNDER MEDICATION TO USE THE SPA. SHOULD SEEK DOCTOR'S ADVICE. SEEK DOCTOR'S ADVICE.

3. HOW TO USE YOUR SPA



DANGER OF ELECTRIC SHOCK

Users should not try to repair parts.

Do not try to repair this control. Call your vendor for technical support. Do not turn on the light when the spa is empty. The bulb will blow due to overheating.

Your spa has been designed for private, intermittent use only. Users are advised against having more than two 15-minute sessions per day.

Follow all of the instructions on electrical connections described in this manual.

Only authorised electricians should install the spa.

- After pressing the button to turn on the compressor, starts its working time – between 15 min and 30 min, depending on the model of controller. After this period (if is not prematurely stopped by the user), the compressor should be at rest (Off) certain period of time - time equal or longer than the working time. This is necessary to cool the compressor. Continuous working intervals, without the necessary rest time are not acceptable and lead to a default on the compressor.
- After pressing the button to turn on the hydro massage system (consisting of one or two pumps) begins its working time - between 15 min and 30 min, depending on the model of controller. After this period, the pumps can run again for the same time interval. These intervals can be repeated up to 3 times and after that the pumps must be shut off for one interval of time.
- In the presence of Ozone system:
Ozone system is connected with the filtration system. Operating hours of the ozone device are 3000. After this period of time the ozone device must be replaced. For private homes, those hours are reached approximately at the end of the second operational year. Public places with large number of visitors (hotels, spas, etc.) reach the certain working hours at the end of the first operational year.

- When the spa tub is filled with hot water (if there is available source of hot water), the temperature must not be higher than 30-32 °C. The electric heater is used to achieve a higher water temperature in the tub. If the customer prefers to fill the hot tub with water temperature higher than the above mentioned, it is necessary to assemble a thermo head. The thermo head must be set on the above mentioned temperature.
- If the equipment of the hot tub is placed in enclosed space is necessary to ensure adequate ventilation and aspiration. Electronic units, components and equipment installed under the bath are designed to function properly at a temperature not higher than 40 °C.
- The entry into the tub is performed after previously taken a body shower. Small particles and solids can clog filters, which could lead to damage of the electrical equipment (pumps).
- It is forbidden sitting or damaging the filter and the forced closure / occlusion of suction drains of jet nozzles. Prevent the entry of children into the hot tub without parental supervision.
- Pressing the buttons on the control panel must be gently and without any pressure. Hitting or scratching with hard, sharp objects or nails, would damage the protective layer and could lead to penetration of moisture and water in the control panel. Strong and rough touch can change the mechanical work of the buttons and could lead to their refusal of work.
- Valves D50, which are mounted on the filtration system must be always open, otherwise it could lead to damage of the filtration pump. The valves can be adjusted only by a technician.

3.1 OPERATION OF VALVES



VALVE 1 – water supply valve

VALVE 2 - draining the hot tube from floor drains

VALVE 3 – draining of filtration systems

VALVE 4 and VALVE 5 – draining of the hydro massage systems

Each handling of the valves must be done with no electric supply.

All the valves must be closed during normal operating mode of hydro massage system.

3.2. KEYPAD SYSTEM

Your spa is equipped with an electronic control system that will enable you to regulate temp the water, choose the filter cycle that best suits your needs and activate the massage pumps and the blower pump. It will also enable you to turn on your spa lighting, change its colour and sequence.



Keypad in.k500 - 7 keys, color display, control system for spa, additional functions - in.steram and in.touch

Power

Press any button to turn the keypad on. After 30 minutes without activity it will shut off.

Main screen

The main screen gives you access to your accessories and water temperature. At the bottom of the screen you will see any error or maintenance messages that are present.

Start or stop accessories

To start or stop an accessory, press the associated button. Icons will become animated when their accessory is turned on, and inanimate when turned off.



Water temperature

The temperature shown at the top of the screen is the current water temperature. Use the Up and Down buttons to set the desired temperature. The set point will appear in blue at the bottom. After 3 seconds without any change to the set temperature value, the keypad will resume the normal display of messages. When the set value is lower than the current temperature Cooling to xx.x will appear. When the set value is higher than the current temperature, Heating to xx.x will be indicated. Normally there is a short delay before the heating starts, during which Heating Suspended is indicated.



Settings

From the home page you can access the Settings, where you will find:

- Water care
- Audio (if installed)
- Standby (version 6.00 only)
- Maintenance (version 7.00 and higher)
- Date & time
- Keypad
- Wi-Fi (Version 7.00 and higher. Only available on in.touch with software 11.00 and higher.)
- Config
- Restore
- About





Water care

The Water Care section will help you set up your ideal filtration and heating settings. Choose from Away, Beginner, Energy Savings, Super Energy Savings, and Weekender, depending on your need. Use Light key to choose your setting. A checkmark will appear on the selected icon to confirm. In Economy mode, the set point will be reduced by 20°F.



Water care modes

Away:

In this mode the spa will always be in economy; the set point will be reduced by 20° F.



Beginner:

The spa will never be in economy mode and will be filtering according to the pack's low level configuration.



Energy Savings:

The spa will be in economy mode during the peak hours of the day and resume normal mode on the weekend.



Savings:

The spa will always be in economy mode during peak hours, every day of the week*.



Weekender:

The spa will be in economy mode from Monday to Friday, and will run normally on the weekend*.

*Filtration will be reduced when the economy mode is active.



Modifying schedules

To see and/or modify a Water Care category, use the lit button to the right (Key 1) to open the selected Water Care menu.

Use the Light key to move between parameters. You have several possibilities for the schedule (Mon-Fri, weekend, every day, or single days). The schedules will be repeated every week. Once you have set the schedule, use Key 1 to go back. The filtration schedule shown on the screen will apply to the main filtration pump, most likely pump 1. If your spa uses a circulation pump configured to run 24 hours, the screen will show you the purge setting instead of filtration.





Audio

The in.k500 can be used with either the in.tune or in.stream audio system. The Audio section in the Settings menu gives you the option to disconnect or unpair your Bluetooth enabled device when using the in.stream.



Maintenance (version 7.00 and higher) From the Settings page you can access the Maintenance menu, which gives you access to the following options:

- Maintenance reminders
- Standby

Use the Up and Down keys to make a selection, and Light key to confirm. Maintenance reminders (version 7.00 and higher)

The **in.k500** keypad will remind you of maintenance required on your spa, like rinsing or cleaning the filter. Each task has its own duration, based on normal use. The Maintenance reminders menu allows you to verify the time left before maintenance is required, as well as to reset the time once a task is completed. Use the Up and Down keys to move through the list.

To reset a task select it by pressing Light key, then confirm when prompted. Once you have confirmed the task will be reset.

Standby (version 6.00 and higher)

The Standby mode allows you to service your spa. Pumps will stop for 30 minutes, and automatically restart after this time.

Once Standby mode has been activated a screen will appear to show that pumps are stopped. The normal spa page will return at the end of maintenance.

Press the Key 1 to leave Standby mode and restart the spa.

Note:

In version 6.00 only, Standby mode is accessible directly from the Settings page.





Date and time

Here you can adjust the time format, change the year, date and time. Use the arrows to choose the setting that you want to adjust, and select it by pressing the Light key. Note:

In version 6.00 and earlier, only the day of the week can be changed, and not the year or date.



Keypad settings

In this section you can change the temperature unit and language. Use the Light key to choose and the arrow keys to modify. Starting in version 7.00 you can change the display orientation.



WiFi (version 7.00 and higher)

For the WiFi menu to appear in the Settings menu your in.touch module must be equipped with software version 11.00 or higher.

Select your network by pressing on Light key.

- Use the arrow keys to choose your letters and change the type of character (uppercase, lowercase, number, symbol).
- Use Key 2 to move the cursor forward
- Use Key 1 to backspace
- Use Light key to confirm



Config

Please do not make changes in the electrical configuration section unless you are a qualified electrician. In this section you can change the low-level configuration, number of phases, and input current.

in.tune operation



in.stream operation



Error codes

CODE	MESSAGE
HL	High Limit circuit has tripped!
FLO	No Flow condition for more than 2 hours
FLO	No Flow condition
HR	A hardware error was detected (Relay stuck)
OH	Spa temperature is too high
Pr	Temp probes or detection circuit are defective
AOH	Elevated internal temperature
FLC	The pressure switch is closed
SP in	Input voltage issue
RH NC	Comm. error between in.xm2 - in.therm
RH ID	in.xm2 and in.therm incompatible
SC ER	Error detected during the learning mode
F1	in.xm2 Fuse # 1 is blown
F2	in.xm2 Fuse # 2 is blown
F3	in.xm2 Fuse # 3 is blown
ER1	SwimSpa config. : slave unit is missing
Hr	Hardware error was detected (Thermal fuse)
UPL	The spa pack does not have valid software. Please insert valid in.stick to reprogram spa pack.
CFLO	No Flow condition
HiBr	Add fresh water to the spa
HiBr	Add fresh water to the spa
LoBr	Add BromiCharge to spa water
NoBr	Add BromiCharge to spa water
Comm	Verify cable connections
Supp	Connect power cord to 240 V source

3.3. JETS OPERATION

The water jets provide a hydrotherapy pressure jet. It is a closed circuit, where the water is absorbed by 1 or 2 pumps (depending on the SPA model) through the drain and driven to the jets.

The hydro massage effect is provided by the jet, when the circuit water mixes with the outside air, in the so-called Venturi effect.

To adjust the amount of air driven into the jets, simply turn the air input tab (venturis) as follows:

Turn clockwise to reduce the amount of air mixed in the jets. This will reduce the intensity of the jet massage.

Turn anti-clockwise to increase the amount of air mixed in the jets. This will increase the intensity of the jet massage.

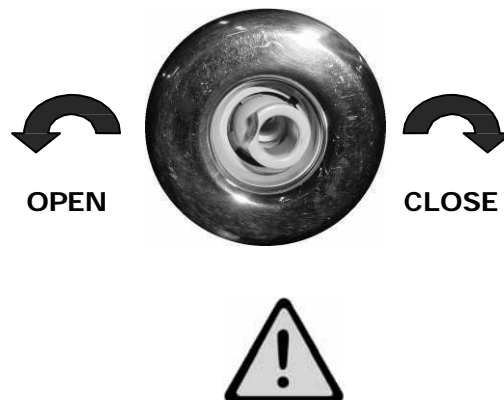


Each air inlet activates a certain group of jets.

Some jets can also adjust the flow intensity on opening and closing the water flow. To do this, proceed as follows:

Turn the outer ring a quarter clockwise to close the jet.

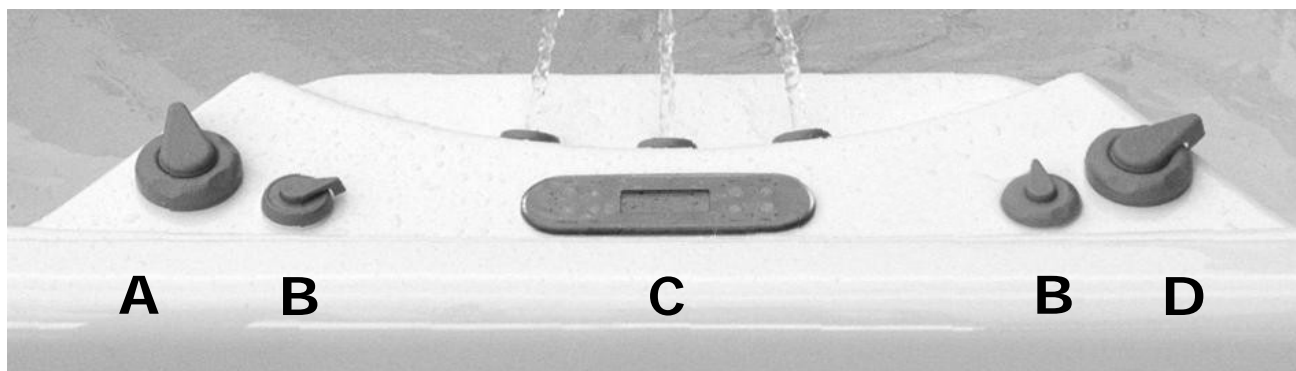
Turn the outer ring a quarter anti-clockwise to open the jet.



ATTENTION!

Do not attempt to forcibly turn the outer ring of the jet, as you could damage it.

3.4. SPA CONTROL



A – Jetstream control

With the jetstream control you can choose the power of the bottom jetstream and the massage.

B – Air control

With the air input valve you can adjust the air turbulence of the jetstream.

C – Main control panel

With the electronic main control panel you can turn on or turn off the Jets, Blower (optional) and Light, set the Temperature, the filtration cycles and Time.

D - Jetstream control

With the jetstream control you can choose the power of the top jetstream and the massage.

3.5. ANTI-FREEZE PROTECTION

If the temperature sensors detect a drop in temperature to below 6.7°C, the heating element and filter pump will connect automatically to prevent the water from freezing and the damage this could cause the Spa.

The equipment will remain connected for 4 minutes after the temperature reaches 7.2°C.

In colder climates, an additional temperature sensor can be added as a precaution and to avoid freezing conditions not detected by the standard sensor.

If the pump turns off in this situation, empty the Spa and contact your authorised dealer or Technical Assistance Service.

4. MAINTENANCE INSTRUCTIONS OF THE SPA

The Spas are built with maximum quality and with the hardest wearing materials available. Proper care and maintenance will ensure a long life-span of the Spa and its components.

4.1. RENEWING THE SPA

WATER. To change the Spa water:

- Disconnect the electrical equipment, placing the differential switch (installed in the main input of the home) in the OFF position.
- Locate the drain valve (see *Spa drainage of the Installation Manual*) and turn the valve to the OPEN position. The Spa will empty by gravity through the general drain.
- Once the Spa is empty, inspect the acrylic and clean if necessary (see point 4.3. Maintenance of the acrylic). Turn the drain valve to the CLOSED position.
- Fill the Spa with clean water (see Filling the Spa of the *Installation Manual*).

4.2. MAINTENANCE OF THE FILTER.

All Spas include either a cartridge filter or a pressure filter. Check the type of filter in your Spa and follow the maintenance instructions below.

4.2.1. MAINTENANCE OF CARTRIDGE FILTERS.



It is advisable to periodically check the condition of the cartridge filter. Clean them or replace them if dirt is observed.

Remember that if a filter is blocked, it will reduce the water flow and therefore, the Spa will operate incorrectly.

To change or clean the filter, follow these instructions:

1. Disconnect the electrical supply. Differential in the *OFF* position.
2. Locate the filter and remove it as shown.
3. Clean the filtering cartridge with a garden hose jet spray at low pressure until it is clean. Clean from top to bottom spraying the water at an angle of 45°.



4. After several washing cycles, it may be necessary to change the filtering cartridge. Contact your supplier.
5. Replace the filtering cartridge and pre-filter.
6. Turn on the electrical equipment. Differential in the *ON* position.



The Spa should always operate with the pre-filter and the filtering cartridge in the correct position. Never place objects that could block the inlet to the filter.



It is advisable to periodically check the condition of the cartridge filter. Clean them or substitute them if dirt is observed.

Remember that if a filter is blocked, it will reduce the water flow and therefore, the Spa will operate incorrectly.

4.3. MAINTENANCE OF THE ACRYLIC

To clean the acrylic surface, use a non-abrasive cleaner and warm water. Once the Spa is clean, rinse with water to remove the detergent. Clean the non-submerged part of the spa with good quality Spa polish once a week.



Remember: never leave the Spa uncovered and exposed to sunlight, as this could cause damage not covered by the guarantee.

4.4. MAINTENANCE OF THE CABINET (Only Spas with natural wood cabinet)

The unit is treated with special oil that protects the wood from water absorption. It is recommended to repeat this treatment periodically, at least once a year.

Extra treatment given to the unit when it is new will prolong its life-span.

In time, the wood will darken, and because it is live matter, it is normal for small cracks to appear. This is a normal reaction to environmental conditions that do not damage the wood. It should simply be polished and treated with oil.

Good quality "Teak oil" should be used or any other wood protection oil.

4.5. MAINTENANCE IN PERIODS OF NON-USE OR ABSENCE

SHORT PERIODS (3-5 DAYS)

- Adjust the pH and treat the water (see Water Maintenance section).
- Cover the spa.
- Before using the Spa again, readjust the pH and treat the water again.

PROLONGED PERIODS (5-14 DAYS)

- Set the temperature at its lowest level.
- Adjust the pH and treat the water (see Water Maintenance section)
- Cover the Spa.
- Before using the Spa again, reset the temperature as required , readjust the pH and treat the water again.

PREPARATION FOR WINTER

If it is not planned to use the Spa through the winter season or for prolonged periods of time, the following operations should be done:

- Disconnect the electrical equipment, placing the differential switch tab in the OFF position.
- Locate the drain valve (see *Drainage of the Spa*) and turn the red lever of the valve to the OPEN position. The Spa will empty by gravity through the general drain.
- Leave the drain valve open.
- Remove the filter cartridge/s from the filter (See Maintenance of the filter) and keep in a dry place.
- Clean and dry the Spa.
- Cover the Spa.



Do not leave water in the Spa without electrical connection outdoors at temperatures below 4°C, as the pipes can freeze and damage the Spa.

5. MAINTENANCE OF THE WATER

The user must pay particular attention to the maintenance of water. Maintenance will depend on the mineral content of the water used, how often the Spa is used and how many people use the Spa.

There are three essential points for the maintenance of the water:

- Q FILTERING OF WATER
- Q CHEMICAL ANALYSIS AND pH CONTROL
- Q DISINFECTION OF WATER

5.1. SAFETY IN THE USE OF CHEMICAL PRODUCTS

Before using a chemical product, read the instructions on the product label carefully.



IMPORTANT

- It is advisable that always the same person handles the chemical products. Keep these products away from children.
- Add the exact amounts to the water, as specified.
- Keep containers tightly closed in dry, well-ventilated places.
- Do not inhale chemical products, and take care not to let them come into contact with the eyes, nose or mouth. Wash hands after use.
- Follow the emergency instructions on the product label in the event of an accident or ingestion.
- Do not smoke while handling these products – they may be flammable.
- Do not store these products inside the Spa unit.
- Do not mix products. Add first one and then the other to the water, to avoid possible reactions.
- Do not add chemical products to the water if there is someone in the Spa.

5.2. MAINTENANCE SCHEDULE OF THE SPA WATER

All chemical products: Bromine in tablet form, Algaecides, Anti-calcareous and pH reducer, must be added to a floating dispenser (not supplied), with the massage pump on for at least ten minutes.

5.3. pH ADJUSTMENT

A pH index of between 7.2 and 7.6 is recommended.

The pH level measures the acidity and alkalinity: Values above 7 are alkali and below 7, are acid.



It is very important to maintain the correct pH level both for the disinfectant to work properly and to prevent corrosion or deposits on the Spa. Any damage caused by an inadequate pH level is not covered by your Spa guarantee.

- The effects of a very low pH level are:
 - The disinfectant will quickly dissipate.
 - The equipment of the Spa become rusty.
 - The water can start causing skin irritations to bathers.

- The effects of a very high pH level are:
 - The disinfectant is less effective.
 - Scale may appear on the acrylic and equipment.
 - The water may become cloudy.
 - The filter cartridge can become blocked.

Check the pH of the Spa water daily using the pH test set. (not supplied)

If the pH is above the indexes, use pH MINOR SPA. Wait for two hours and re-do the pH test.

If the pH is below indexes, use pH MAJOR SPA. Wait for two hours and re-do the pH test.

Once the pH index has been adjusted to the values indicated above, proceed to the next point.

5.4. DISINFECTION OF THE WATER

Disinfection of the water is of utmost importance in order to destroy algae, bacteria and organisms that could develop in the water. However, excessive disinfection could cause skin and eye irritation.

BROMIDE TABLETS are a suitable disinfectant for the Spa water. This product is placed in the pre-filter and gradually dissolves.

Check the residual bromide level daily using the Br analyser set.

The recommended level of residual bromide is between 2.2 and 3.3 ppm.

5.5. USE OF SPECIAL PRODUCTS

Apart from products to maintain the pH and disinfectant level, there are other products formulated especially for use in Spas that will help you to maintain the water and installation in perfect condition.

- **SPA-ANTI-CALCAREOUS:** This prevents the precipitation of calcium salts (scale), particularly in hard water. This product should be added weekly and whenever the water is renewed.
- **SPA-ALGAECIDE:** This algaecide prevents algae from growing in the Spa water. This product is added weekly and whenever the water is renewed.
- **SPA-ANTIFOAM:** Foam is often formed owing to the agitation of the water and grease present in the water. Whenever there is a significant amount of foam, remove it with Spa-Antifoam.
- **SPA-DEGREASER:** To remove rings of dirt and grease that form on the walls of the Spa. To use this product, it is recommended to empty the Spa and apply a degreaser with a sponge on the parts to be cleaned. Rinse immediately with plenty of water.

5.6. OZONE GENERATOR (only in spas with this option).

Ozone, O₃, is an oxidizing chemical compound, which is very effective for disinfecting water. The main advantage of ozone is that it leaves no chemical trace and is odourless.

The capacity of ozone as a disinfectant is due to its potential as an oxidizing agent, which eliminates any organic matter that may be present in the water.

In order to produce ozone, electricity is passed through an ozonator to produce ozone ions from oxygen in the atmosphere. This is an automatic process and the resulting product is injected through the jets of the Spa. The process does not require the user to use any other mechanism.

The water is collected in the drains and skimmer, by the absorption action of the massage pump.

It is then sent through the heat exchanger and as it leaves, the ozone is injected. The water is distributed by the filtering back-flow. Part of this flow is also distributed through the drain outlet in order to avoid stagnant water from collecting.

Ozone treatment does not exclude the use of other chemical products such as Bromide or Chlorine. Ozone is considered a complementary process to them, therefore reducing the use of Bromide or Chlorine.

QUICK GUIDE TO THE APPLICATION OF CHEMICAL PRODUCTS

	Reason for Use	Amounts per m ³ of water	Frequency of use
pH MINOR SPA	Add if the pH level is above acceptable levels (7.2-7.6 ppm).	Add following recommendations of the chemical product manufacturer.	Analyse the pH daily with the pH Test.
pH MAJOR SPA	Add if the pH level is below acceptable levels (7.2-7.6 ppm).	Add following recommendations of the chemical product manufacturer.	Analyse the pH daily with the pH Test.
BROMIDE TABLETS	Add if the Br level is above acceptable values (3-5 ppm).	Add following recommendations of the chemical product manufacturer.	Analyse the Br daily with the Br Test.
ANTI-CALCAREOUS	To prevent precipitation of calcium salts (scale).	Add following recommendations of the chemical product manufacturer.	Once a week and whenever the water is renewed.
SPA ALGAECIDE	Prevents algae from growing in the water.	Add following recommendations of the chemical products manufacturer.	Once a week and whenever the water is renewed.
DEGREASER	To eliminate rings of dirt on the walls of the Spa.	Rub with a sponge and immediately rinse with abundant water.	Whenever dirt is observed on the walls of the Spa.
ANTI FOAM	Foam in the water.	Add following recommendations of the chemical product manufacturer.	Whenever foam appears in the water.

6. RECYCLING AND THE ENVIRONMENT



The Spa includes electric and/or electronic material, which at the end of its life-span, should be suitably treated as special waste. Contact your local authorities to find out the collection and waste disposal procedure for electric and electronic material.